

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1 - 90. (Canceled)

91. (New) A method of inhibiting corrosion on a metal substrate with a material comprising:

preparing a metal substrate;

placing a corrosion inhibitor near the metal substrate to inhibit corrosion of said metal substrate;

wherein the corrosion inhibitor includes:

a supramolecular oxo-anion having the general formula $(H_N A_N O_N)_N (A_N O_N)_N (H_2 O)_N$;

wherein H is hydrogen, O is oxygen, N is an integer equal to 1 or higher, and A is selected from the group consisting of molybdenum, phosphorous, tungsten, silicon, and combination thereof;

wherein said corrosion inhibitor is operable to inhibit corrosion relative to said metal substrate.

92. (New) The method Claim 91, wherein preparing a metal substrate includes forming a component including an aluminum alloy.

93. (New) The method of Claim 91, wherein preparing a metal substrate includes painting said metal substrate with a material to form a first coating on said metal substrate.

94. (New) The method of Claim 91, wherein placing a corrosion inhibitor relative to said substrate includes at least one of spraying said corrosion inhibitor relative to said substrate, dipping said metal substrate in said corrosion inhibitor, brushing said corrosion inhibitor on said metal substrates, absorbing said corrosion inhibitor into said metal substrate, or combinations thereof.

95. (New) The method of Claim 91, wherein the corrosion inhibitor further includes a cation operable to substantially inhibit propagation of a pit corrosion in said metal substrate.

96. (New) The method of Claim 95, wherein said cation is selected from a group comprising a transition metal, an alkaline earth metal, a rare earth metal, a lanthanide series element, or combination thereof.

97. (New) The method of Claim 95, wherein said oxo-anion and said cation form a salt operable to substantially inhibit corrosion.

98. (New) The method of Claim 97, further comprising absorbing said salt into said metal substrate.

99. (New) The method of Claim 91, further comprising absorbing said supramolecule into said metal substrate.

100. (New) The method of Claim 91, further comprising forming the supramolecule in an aqueous solution to substantially form the material to form said corrosion inhibitor.

101. (New) The method of Claim 91, wherein forming a corrosion inhibitor further includes forming a salt of a cation and said oxo-anion.

102. (New) The method of Claim 101, wherein said salt has a general formula of $(D_N)((H_NA_NO_N)_N(A_NO_N)_N(H_2O)_N)_N$;
wherein D is a metal cation.

103. (New) The method of Claim 91, further comprising:
forming a polymer of said oxo-anion;
wherein said polymer is operable to allow release of said oxo-anion to substantially inhibit corrosion of said substrate.

104. (New) The method of Claim 103, wherein said polymer releases said oxo-anion in a moisture rich environment.

105. (New) The method of Claim 91, further comprising: forming a mixture effective to inhibit corrosion when applied to the prepared metal substrate.

106. (New) A method of inhibiting corrosion on a metal substrate with a material, comprising:

providing a metal substrate;

providing a metallic salt of a supramolecular oxo-anion having the general formula $(D_N)((H_N A_N O_N)_N (A_N O_N)_N (H_2O)_N)_N$;

wherein D is a metal cation, H is hydrogen, O is oxygen, N is an integer equal to 1 or higher, and A is selected from the group consisting of molybdenum, phosphorous, tungsten, silicon, and combination thereof;

placing the salt on the metal substrate and inhibiting the propagation of pit corrosion on the surface of the metal substrate.

107. (New) The method of claim 106, wherein D is a transition metal.

108. (New) The method of claim 106, wherein D is an alkaline earth metal.

109. (New) The method of claim 106, wherein D is a rare earth metal.

110. (New) The method of claim 106, wherein D is an element selected from the lanthanide series of the periodic table of elements.

111. (New) The method of claim 106, wherein D is selected from the group consisting of barium, strontium, aluminum, zinc, lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, yttrium, scandium, and combinations thereof.

112. (New) The method of claim 106, wherein the metal substrate is comprised of a material selected from the group consisting of aluminum, aluminum alloys, and combinations thereof.

113. (New) The method of claim 106, wherein the placing includes coating of the metal substrate comprised of a material selected from the group consisting of oxides, pigments, and combinations thereof.